UPA-700

EMOTIVA®

# UPA-700

## Seven-Channel Power Amplifier
## User Manual

# Important Safety Precautions and Explanation of Symbols

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important installation, operation, and service instructions in this manual.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltages within the enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to the user.

Please read this Manual thoroughly before attempting to install, configure, or operate the UPA-700 power amplifier. After successful installation and configuration of the UPA-700, be sure to retain this manual in a safe place for future reference.

Safety is a key component to a long lasting and trouble free installation. Please read and follow all instructions and heed all warnings on the UPA-700 and in this manual. The vast majority of the subsequent safety precautions are common sense. If you are not comfortable with the installation of audio/video entertainment equipment, you should seek the services of a qualified installation professional or call us for help.

***WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT USE THE UPA-700 NEAR WATER OR IN WET LOCATIONS, DO NOT EXPOSE IT TO RAIN OR MOISTURE, DO NOT EXPOSE IT TO DRIPPING OR SPLASHING FROM OTHER SOURCES, AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS (SUCH AS VASES) ARE PLACED ON IT. DOING SO MAY RESULT IN DAMAGE TO THE UNIT AND THE RISK OF ELECTRIC SHOCK, WHICH MAY RESULT IN BODILY INJURY OR DEATH.***

***WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER FROM THE UPA-700. THERE ARE NO USER-SERVICEABLE PARTS INSIDE THE UNIT. REFER ALL SERVICE TO QUALIFIED SERVICE PERSONNEL.***

Do not install the UPA-700 near or above any heat sources such as radiators, heating vents, or other apparatus that produces heat. Do not block any ventilation openings or heat sinks. Avoid installing the unit directly above other heat-producing equipment unless sufficient ventilation or forced-air cooling is provided.

Do not install the UPA-700 in locations without proper ventilation. The UPA-700 should not be operated on a bed, sofa, rug, or similar surface that may block vents. The unit should not be installed in an enclosed location such as a bookcase, cabinet, or closed equipment rack unless sufficient forced-air ventilation is provided.

Always install your UPA-700 according to the manufacturer's instructions and only use attachments or accessories specified by the manufacturer.

Do not install the UPA-700 on any stand, shelf, or other piece of furniture that is unable to support its weight. If a cart is used to move the unit, use caution to avoid injury from tip-over.

Connect the UPA-700 only to power sources of the correct voltage (as shown in this manual and on the UPA-700 unit).

Protect power supply cables from being pinched, walked on, or otherwise damaged. Be especially careful where the power cable enters the power outlet and the unit.

Only connect the UPA-700 to an electrical outlet or extension cord of appropriate type and rating.

DO NOT defeat the safety purpose of a grounding or polarized plug by removing ground pins or using unsafe adapters. A polarized plug has two blades - one wider than the other. A grounding plug has a third ground prong in addition to the two main conductors. The wide blade or third groundling prong is provided for your safety. If the provided plug does not fit your outlet, consult an electrician to replace your obsolete outlet. If you replace the power cord, only use one of similar type and equal or greater current rating.

The power cable for the UPA-700 should be unplugged from the outlet during severe electrical storms, or when unused for a long period of time.

Only replace the fuse(s) in the UPA-700 with a fuse(s) of proper value and voltage rating.

The UPA-700 should only be cleaned as directed in the Installation and Operation Manual. Avoid spraying liquids directly onto the unit and NEVER spray liquids into the vents. Care should be taken so that small objects do not fall into the inside of the unit.

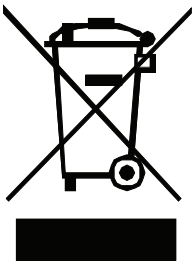
You should seek service for your UPA-700 by qualified service personnel if any of the following occur:

1. The power-supply cord or the plug has been damaged.
2. Objects or liquid have fallen or spilled into the vents.
3. The unit has been exposed to rain.
4. The unit exhibits a marked change in performance.
5. The unit has been dropped, or its enclosure or chassis is damaged.

***NOTE: TO COMPLETELY DISCONNECT THE UPA-700 FROM THE AC POWER MAINS, DISCONNECT THE AC POWER CORD FROM THE AC RECEPTACLE.***

***NOTE: THE POWER CORD ON THE UPA-700 MUST REMAIN READILY ACCESSIBLE AT ALL TIMES.***

CAUTION
CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



EMOTIVA®

# UPA-700 Seven-Channel Power Amplifier

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# Introduction

Thank you for purchasing your new UPA-700 seven-channel power amplifier.

The UPA-700 delivers seven channels of superb quality audio, reliably and efficiently, in an elegant and stylish package. The UPA-700 has plenty of power to deliver a truly dynamic presentation, and the incredibly smooth frequency response and low noise and distortion you need to clearly discern every nuance in a well recorded piece of music (or a crowded scene with complex dialog). Inside, it boasts the proven class A/B topology, oversized toroidal power supply, and effective protection system you would expect from an expensive audiophile system. Outside you get a heavy steel chassis, full-sized five-way binding posts, gold plated RCA jacks, and informative front panel status LEDs. The UPA-700's quality construction and conservative ratings enable it to deliver full power, even with all channels driven, and our advanced engineering ensures that it will sound incredibly good, even into complex or difficult loads.

We recommend pairing the UPA-700 with one of our Ultra Series surround pre-amp/processors to create an excellent sounding seven-channel surround system. Another simple and economical way to dramatically upgrade your listening experience is to substitute the UPA-700 for the power amplifier section in an otherwise excellent surround-sound receiver. You'll be amazed at how much difference having a real audiophile power amp makes.

Yet another possibility for the adventurous is to use the UPA-700 to power a five-channel surround system…. and bi-amp the front channels for the absolute ultimate in clarity and definition. Whichever way you choose to go, you can't lose with the UPA-700. Your ears and your wallet will thank you.

Happy listening!

The Emotiva Team

# About This Manual

This manual will provide you with all the information you need to get great performance, accurate sound, and many years of reliable service from your UPA-700 seven-channel power amplifier.

We suggest that you read through the entire manual; we kept things as short and direct as possible. Even if you're an expert user, you will probably find some interesting information and useful suggestions.

If you're really in a hurry to get started, please read the Quick Start section (on page 8); you may then read the remainder of the manual at your leisure.

You may wish to record serial numbers or other purchase information on the Notes page at the back of this manual.

# Features

The UPA-700 is a no-compromise, 7-channel, audiophile grade power amplifier that combines superb sound quality and outstanding value. Unlike a receiver, which must perform several different functions and must compromise on each, the UPA-700 concentrates on only one thing: delivering clean power to drive your speakers.

When connected directly to a surround sound pre/pro, the UPA-700 will serve as the centerpiece of a true audiophile quality home theater system; when connected to the preamp outputs of your current receiver, it will give you a significant improvement in both measured performance and musical enjoyment.

## Features offered by the UPA-700 include:

- **True audiophile-quality sound** - the UPA-700 was designed first and foremost to sound superb in both music and home theater systems.
- **Great sounding Class A/B topology and advanced engineering** - ensure smooth, detailed sound and incredibly natural imaging while maintaining efficient performance.
- **Heavy duty power supply with oversized toroidal transformer** - provides plenty of real power (continuous; all channels driven) for demanding program material, and has plenty of reserves to deliver signal peaks without any sense of strain.
- **Totally stable** - designed for use in the real world, with real speakers.
- **Shared power** - allows one or two channels to draw extra power from the power supply reserves when needed to avoid clipping even the most dynamic of program material.
- **Classic Emotiva styling** - looks great in any home theater rack or living room.
- **Full-sized, five-way speaker binding posts** - allow you to use a wide range of speaker cables with bare wires, lugs, or banana plugs.
- **Top quality parts and construction** - promise you years of reliable service.
- **Informative front panel status LEDs** - keep you apprised of the status of your UPA-700 (can be disabled if desired).
- **Remote trigger input and trigger output** - for turn on/off with trigger-enabled equipment.
- **Audiophile-grade fault protection** - entirely transparent under normal conditions, yet protects the amp and your other equipment from all common fault conditions.
- **Universal AC line voltage operation -** 115 VAC or 230 VAC (with automatic detection and switching).
- **Fully transferable five-year warranty** - ensures that you'll be able to enjoy your UPA-700 for years to come.

You can find more information about the Emotiva UPA-700 on our website at www.emotiva.com.

# Unpacking

Your UPA-700 was carefully packed and should reach you in perfect condition. If you notice any shipping damage or other issues when you unpack it, please contact Emotiva immediately.

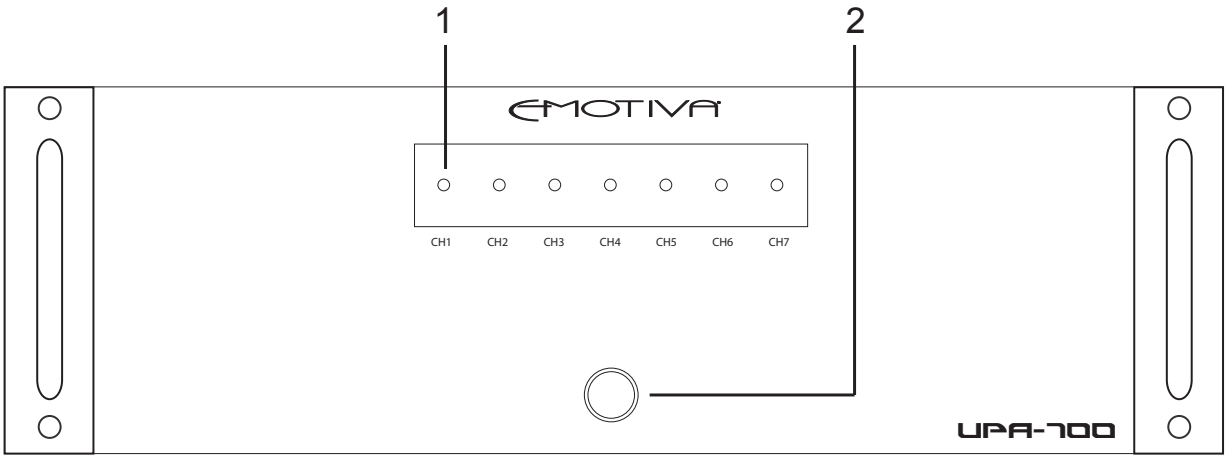
Gently remove your UPA-700 from the packing carton and remove all wrappings and shipping material.

It is important to save the box and all packing materials in case your power amp ever needs to be moved or shipped back to the factory for service.

Please keep your sales receipt in a safe place. It is the easiest way to verify your purchase date for warranty purposes, and may also be required if you ever have to file an insurance claim.

We truly value customer feedback and would like to hear from you.

# UPA-700 Front Panel



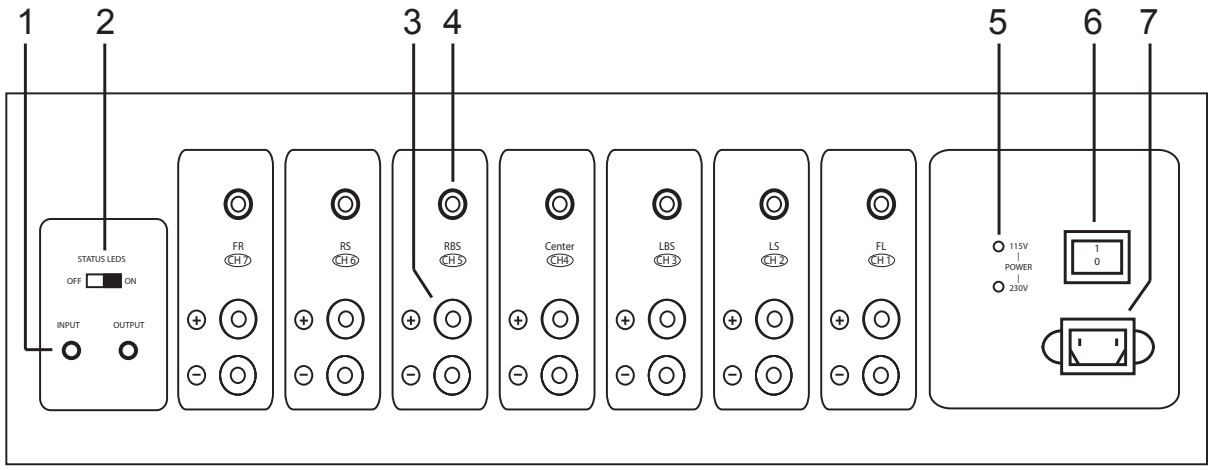

## 1. Channel Status LEDs (7)

Display the status of each channel; illuminate blue for normal operation or red to indicate a fault; may be disabled by rear panel Status LED switch.

## 2. Standby Button

Press to switch the amplifier On; press again to return to Standby; button illuminates amber for Standby and blue for On.

# UPA-700 Rear Panel




## 1. Trigger Input and Trigger Output

The UPA-700 is switched On (from Standby) when a trigger signal is presented at the Trigger Input; the UPA-700 returns to Standby when the trigger signal is removed. When the UPA-700 is on, a 12 VDC signal is sent from the Trigger Output to control other devices.

## 2. Status LED Switch

Enables and disables the front panel Channel Status LEDs.

## 3. Speaker Outputs (7 sets)

Full-sized, five-way binding posts; accept 4 Ohm or 8 Ohm speakers (+ red; - black).

## 4. RCA (unbalanced) Inputs (7)

Unbalanced audio input (gold plated RCA jack).

## 5. Line Voltage Indicator

The UPA-700 automatically detects 115 VAC or 230 VAC line voltage. These indicators show which line voltage is in use.

## 6. AC Power Switch

Switches the mains AC power to the UPA-700 On and Off. When this switch is off, no controls operate (the UPA-700 cannot be turned On by the front panel or a trigger signal).

## 7. IEC Power Cord Receptacle

Accepts a standard removable IEC AC power cable. If you replace this, only use power cables of sufficient current capacity.

# Quick Start

To get the most from your UPA-700, we urge you to read the entire manual. If you just can't wait to listen to it, this section will cover the basics you need to get started.

- Find a secure location for your UPA-700
- Connect your UPA-700 to a signal source.
- Connect your UPA-700 to a pair of speakers (4 ohm or 8 ohm) using reasonably heavy gauge speaker wires (at least 18 gauge).
- Find some music you *really* like to listen to.
- Turn on the AC Power switch and turn up the volume a bit!
- Enjoy!

While you're enjoying your UPA-700, it would be a great time to read the rest of the manual to learn more about it.

# Connections

## Connecting speakers to your UPA-700

Your UPA-700 has no special connection requirements; five way binding posts are provided for connecting one speaker to each channel.

- **Always** turn off the amplifier before connecting or disconnecting speaker cables or signal source interconnects.
- **Always** verify that your speaker cables are firmly attached, and not shorted to each other or to any other cables, before powering up your UPA-700.
- **Always** use high-quality speaker wire of reasonable gauge (18 gauge or heavier).
- If you must use thinner wire, try to keep the length as short as possible.
- Be careful to wire all speakers “in phase” (the plus/red terminal on each speaker to the plus/red terminal on your amp).
- Try to use wires of equal length and gauge for both speakers in each pair (use the same gauge and length for both fronts, or for both surrounds; don’t use a long 16 gauge wire for one speaker and a short 10 gauge wire for the other).
- If you use stranded cables, use care to avoid short circuits (from stray strands touching).
- Emotiva offers very high quality pre-made speaker cables at reasonable prices (you will find them in the Interconnects section of our website at www.emotiva.com).

## Connecting an input source to your UPA-700

Your UPA-700 has a separate unbalanced (RCA) input for each channel. We suggest using high quality cables, keeping cables as short as possible, and avoiding running signal cables near power cables whenever possible.

DO NOT connect a digital signal to the inputs of your UPA-700 (or you may damage it or your speakers).

## Connecting the Trigger Input and Trigger Output

The Trigger Input accepts a 12 VDC (nominal) trigger signal from another device via a standard 1/8” mono plug. When the trigger is asserted, the UPA-700 will switch On; when the trigger is removed, the UPA-700 will return to Standby mode. The Trigger Output sends out 12 VDC whenever the main power to the UPA-700 is On (and NOT when it is in Standby mode) which can be used to switch on other units with trigger capabilities.

# Configuration and Operation

## Line Voltage

The UPA-700 can operate from line voltages of 115 VAC +/- 10% or 230 VAC +/- 10%; when the unit is powered on, it will automatically detect the correct line voltage and set itself accordingly.

## AC Power switch (rear panel)

The rear-panel AC power switch controls the main AC power for your UPA-700. When this switch is in the Off position, the amplifier will not operate. Turning it On will put the UPA-700 into Standby mode.

## Standby Switch (front panel Push Button)

When the UPA-700 is in Standby mode, the front panel Standby switch will be lit amber. Pressing this button once will switch the UPA-700 On (and the LED will turn blue); pressing it again will return the UPA-700 to Standby mode.

## Trigger Mode

When a trigger cable is connected to the Trigger Input (on the rear panel), and a trigger signal is received (between 5-20 V - AC or DC), the UPA-700 will switch from Standby to On; when the trigger signal ceases, the UPA-700 will return to Standby.

The trigger is typically connected to the preamp or pre/pro that provides a signal source for the UPA-700, and set to turn the UPA-700 on when the preamp or pre/pro is turned on.

Whenever the UPA-700 is On, the Trigger Output will assert a 12 VDC signal, which may be used to turn on other equipment.

## Status LEDs switch (rear panel)

This switch turns the front panel LED Status display on and off.

# Care and Maintenance

## Periodic Maintenance

Your UPA-700 requires no periodic maintenance or calibration.

## Cleaning your UPA-700

- If necessary, the UPA-700 should be cleaned gently with a soft rag.
- If something sticky gets on the front panel or case of the UPA-700, it should be cleaned with a mild cleaning solution applied to a soft rag, followed by wiping with a clean rag dampened with plain water and drying with a soft dry rag or cloth.

***Note: DO NOT spray water or cleaning solution directly onto the UPA-700 or into the vents.***

# Specifications

### Topology:
Fully discrete, dual differential, high current, short signal path Class A/B.

### Number of Channels:
7

### Power Output (rated power; THD < 0.01%):
80 watts / channel; into 8 Ohms; both channels driven.
100 watts / channel; into 4 Ohms; both channels driven.

### Rated Power Bandwidth (at rated power; 8 Ohm load):
10 Hz to 20 kHz + / - 0.06 dB.

### Minimum Recommended Load Impedance:
4 Ohms (which equals one 4 Ohm load or two paralleled 8 Ohm loads).

### Frequency Response:
10 Hz to 80 kHz (+ 0 / - 3 dB).

### THD + noise:
< 0.01%

### Signal to Noise Ratio (8 Ohm load):
> 97 dB at 1 watt (A-weighted).

> 116 dB at rated power (A-weighted).

### Damping Factor (8 Ohm load):
> 500

### Speaker Output Connections:
Full-sized, 5-way binding posts; one pair per channel (x7).

### Power Supply:
500 VA toroidal power transformer
60,000 uF of storage capacitance.

### Input Sensitivity (for rated power; 8 Ohm load):
870 mV.

### Gain:
29 dB.

### Input Connections:
Unbalanced (RCA); one per channel.

### Input Impedance:
47 kOhms.

### Trigger:
Trigger Input: 5 - 20 V (AC or DC); <10 mA input current required.
Trigger Output: 12 VDC; can drive any load up to 50 mA.

### Power Requirements:
115 VAC or 230 VAC +/- 10% @ 50 / 60 Hz (automatically detected and switched).

### Front Panel Controls and Indicators:
Standby; push button (changes color to indicate Standby or On).
Status LEDs (one per channel); illuminate blue for normal operation or red to indicate a fault (may be disabled by rear panel Status LED switch).

### Rear Panel Controls:
AC Power switch; rocker switch (switches AC mains power).
Status LEDs switch; small slide switch on left (disables front panel Status LEDs and dims Standby button halo lighting).

### Protection:
The UPA-700 is protected against excessive operating temperature, shorted speaker connections, ground faults, and other common fault conditions. If a fault occurs, the UPA-700 will return to Standby mode, the Standby button will light amber, and the Status LEDs will flash red.

### Dimensions:
17” wide x 6” high x 16-5/16” deep (includes feet and binding posts).

### Weight:
29 pounds unboxed (39 pounds boxed).

# Troubleshooting

The UPA-700 is carefully designed and manufactured from high-quality precision components to ensure years of trouble free operation. We really doubt you'll ever have any problems with your UPA-700 but, if you do, here are a few things you could try:

### Problem: No sound is heard from any channel (nothing is lit).

*Reason: You have no AC power.*

- Verify that the rear panel AC Power switch is On.
- Verify that your circuit is live.
- Verify that the line cord on the UPA-700 is fully inserted and is tight.

### Problem: The UPA-700 is operating normally, but the front panel Channel Status LEDs aren't lit.

*Reason: The front panel Channel Status LEDs are turned off.*

- Set the Status LEDs switch on the rear panel to On.

### Problem: No sound or distorted sound is heard from one or more channel(s); the Standby button is lit blue; the Channel Status LEDs are all lit blue.

*Reason: The UPA-700 is not indicating a Fault condition.*

- Check your source.
- Check your speakers and speaker connections.

### Problem: No sound is heard from one or more channels; the Standby button is flashing amber; and one or more Channel Status LEDs are flashing red.

*Reason: The UPA-700 is in Protect mode, which indicates a Fault condition.*

- Switch the AC Power switch Off and On to clear the Fault condition.
- If the fault remains, look for a shorted speaker cable or damaged speaker.
- Check your sources and source connections (a bad interconnect, DC on the input, or an otherwise bad source component can cause a fault).

### Problem: The Standby button is amber and the UPA-700 fails to come on when triggered.

*Reason: The UPA-700 is in Standby mode and should respond to a valid trigger signal.*

- Check your trigger cable.
- Check the trigger settings on your source equipment.

# Emotiva Audio Corporation Five-Year Limited Warranty

**What does this warranty cover?** Emotiva Audio Corporation ("Emotiva") warrants its products against defects in materials and workmanship.

**How long does this coverage last?** This warranty commences on the date of retail purchase by the original retail purchaser and runs for a period of five years thereafter. This warranty is transferable to any person that owns the warranted product during the Term. Emotiva warrants any replacement product or part furnished hereunder against defects in materials and workmanship for the longer of the following: (i) the amount of time remaining under the original warranty, or (ii) 120 days from your receipt of the repaired or replaced product. The duration described in the previous 2 sentences is hereinafter referred to as the "Term". TO THE FULLEST EXTENT PERMITTED BY LAW, ALL IMPLIED WARRANTIES RELATED TO THE ORIGINAL PRODUCT AND ANY REPLACEMENT PRODUCT OR PARTS (INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) ARE EXPRESSLY LIMITED TO THE TERM OF THIS LIMITED WARRANTY. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. A claim under this warranty must be made by you within the Term. A claim shall not be valid (and Emotiva has no obligation related to the claim) if it is not made within the Term and if it is not made in strict compliance with the requirements of the "How do you get service?" section.

**What will Emotiva do?** Emotiva will, at its option, either: (i) repair the product, or (ii) replace the product with a new consumer product which is identical or reasonably equivalent to the product. Emotiva may provide you with a refund of the actual purchase price of the product in the event (i) Emotiva is unable to provide replacement and repair is not commercially practicable or cannot be timely made, or (ii) you agree to accept a refund in lieu of other remedies hereunder. When a product or part is repaired or replaced, any replacement item becomes your property and the replaced item becomes Emotiva's property. When a refund is given, the product for which the refund is provided must be returned to Emotiva and becomes Emotiva's property.

**What is not covered by this warranty?** This warranty does not apply: (i) to damage caused by use with non-Emotiva products, where the non-Emotiva product is the cause of the damage; (ii) to damage caused by service or maintenance performed by anyone who is not a representative of Emotiva; (iii) to damage caused by accident, abuse, misuse, flood, fire, earthquake or other external causes; (iv) to a product or part that has been modified after its retail purchase, where the modification caused or contributed to the damage; (v) to consumable parts, such as batteries; or (vi) if any Emotiva serial number has been removed or defaced and Emotiva cannot otherwise confirm that you are the original retail purchaser.

EMOTIVA SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM OR RELATED TO ANY DEFECTS IN OR DAMAGES TO ITS PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

**How do you get service?** In order to make a claim under the warranty, you must:

1. Call a customer service representative ("CSR") of Emotiva at 1-877-EMO-TECH (1-877-366-8324). Provide the CSR with a description of your problem and the serial number of the product for which the warranty claim is being made.
2. The CSR will provide you with a returned material authorization number ("RMA").
3. Ship the product to Emotiva at the following address, with the RMA written in large, bold numbers on the outside of the box, and with the letters "RMA" written before the number. Parcels arriving without a RMA number on the outside of the box will be refused.

Emotiva Audio Corporation
Attn: Repair Department
135 Southeast Parkway Court
Franklin, TN 37064

**How does state law apply?** This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

# Accessories

## Speaker cables

Using high-quality speaker cables and audio interconnects will ensure that you get the best sound quality and maximum reliability from your UPA-700 amplifier and the speakers connected to it. Emotiva Audio offers high-quality speaker cables and audio interconnects that feature solid engineering, premium build quality, excellent performance, and reasonable cost (you will find them on our website at www.emotiva.com)

Rack ears and rack mount brackets for the UPA-700 are available in in the accessories section of our website at www.emotiva.com

# Notes

All information contained in this manual is accurate to the best of our knowledge at the time of publication. In keeping with our policy of ongoing product improvement, we reserve the right to make changes to the design and features of our products without prior notice.

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